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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,647	10/18/2004	Louis Robert Litwin Jr	PU020125	2301

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EXAMINER

RIZK, SAMIR WADIE

ART UNIT PAPER NUMBER

2133

DATE MAILED: 10/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/511,647	Applicant(s) LITWIN JR ET AL.	
	Examiner Sam Rizk	Art Unit 2133	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 October 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/18/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTIONS

- Claims 1-15 have been submitted for examination
- Claims 1-15 have been rejected

Drawings

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3, 5-8, 10-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Anandakumar et al. US patent no. 6801499 B1 (Hereinafter Anandakumar) as applied to claim 1-15 above,

2. In regard to claim1, Anandakumar teaches;

- A method of diversity error control coding for a system having variable-length packets that carry prioritized data, comprising the steps of:

(Note: Col. 1, lines (55-57) in Anandakumar)

- Replicating high priority packets in a data sequence to form virtual replications; and

(Note: Col. 7, lines (55-68) and Col.8 in Anandakumar).

- Generating parity symbols from the data sequence and from the virtual replications and generating tag information that indicates a number of the virtual replications used to generate the parity symbols, for subsequent transmission of only the data sequence, the parity symbols, and, the tag information to reconstruct the data sequence.

(Note: Col. 8, in Anandakumar)

3. In regard to claim 3, Anandakumar teaches;

- A method of diversity error control decoding for a system having variable-length packets that carry prioritized data, comprising the steps of:
- Receiving data packets, parity packets, and tag information, the parity packets having parity symbols generated from both the

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data packets and from replications of high priority ones of the data packets, and the tag information for indicating a number of the replications used to generate the parity symbols; and

- Reconstructing the data sequence from the received the data packets, the parity symbols, and the tag information, without any one of a transmission and receipt of the replications.

(Note: Col.7, lines (55-68) and Col. 8-9 in Anandakumar).

4. In regard to claim 5, Anandakumar teaches;

- The method of claim 3, wherein said reconstructing step comprises the steps of :
- Arranging the packets vertically to form columns of symbols; and
- Applying at least one codeword to each of the columns of symbols.

(Note: Fig. 6 In Anandakumar)

5. In regard to claim 6, Anandakumar teaches;

- The method of claim 5, wherein for a packet that spans at least one of the columns and that has an error therein, said reconstructing step comprises the steps of :
- Recovering at least one symbol corresponding to the error using the parity symbols;
- substituting the at least one symbol into at least one other of the columns to recover at least one other symbol.

(Note: Col . 33, lines 7-45 and figures 29-33 in Anandakumar)

6. Claims 7 ,14 and 15 are rejected for the same reasons as claim 6.
7. Claim 8 is rejected for the same reasons as claim 1.
8. Claim 10 is rejected for the same reasons as claim 3.
9. Claim 11 is rejected for the same reasons as claim 4.
10. In regard to claim 12, Anandakumar teaches;
 - The apparatus of claim 10, further comprising
 - A receiver for initially receiving the data sequence and for forwarding the data sequence to the decoder.

(Note: Fig. 3 In Anandakumar).

11. Claim 13 is rejected for the same reasons as claim 5.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 2,4 and 9 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Anandakumar et al. US patent no. 6801499 B1

(Hereinafter Anandakumar) as applied to claim 1-15 above, and further in

view of Boyce US patent no. 6317462 B1 (Hereinafter Boyce)..

12. In regard to claim 2, Anandakumar teaches substantially all the limitations in claim 1.

However, Anandakumar, does not explicitly teach;

- The method of claim 1, further comprising the step of transmitting, without the virtual replications, only the data sequence, the parity symbols, and the tag information, for subsequent reconstruction of the data sequence.

Boyce, in an analogous art, of transmitting MPEG video over the Internet,

teaches the packetized data information includes: a packet number, a

frame number, the type of frame, the (n,k) parameters which define the

packet structure of the frame, and the number of High priority partition

bytes, and the low priority partition bytes in each packet.

(Note: col. 11, lines (40-60) and Col. 9, table 1 in Boyce).

Therefore, it would have been obvious to one of ordinary skill in the art at

the time the invention was made to modify Anandakumar with the teaching

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of Boyce to include the step of transmitting, without the **virtual replications**, only the data sequence, the parity symbols, and the tag information, for subsequent reconstruction of the data sequence.

This modification would have been obvious to one of ordinary skill in the art, at the time the invention was made, because one of ordinary skill in the art would have recognized the need to protect video quality against packet loss, but which has low overhead and low delay.

13. In regard to claim 4, Anandakumar teaches substantially all the limitations in claim 3

However, Anandakumar does not explicitly teach;

- The method of claim 3, wherein said reconstructing step comprises the step of reconstructing the replications from the tag information and the parity symbols without ever actually receiving the replications.

Boyce, in an analogous art, of transmitting MPEG video over the Internet, teaches the step of forming the parity bytes in one or more of the packets containing parity bytes by applying the systematic forward error/ erasure code to the high priority partition information bytes in the **other packets**.

(Note: Col.15, lines 48-54 in Boyce).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Anandakumar with the teaching

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of Boyce to include the step of, reconstructing the replications, from the data sequence, the parity symbols, and the tag information.

This modification would have been obvious to one of ordinary skill in the art, at the time the invention was made, because one of ordinary skill in the art would have recognized the need to protect video quality against packet loss, but which has low overhead and low delay.

14. Claim 9 is rejected for the same reasons as claim 2.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Tsunoda US patent no. 6675346 B2 teaches code transmission scheme for communication system using error-correcting codes.
- Rhee US patent no. 6421387 B1 teaches methods and systems for forward error correction based loss recovery for interactive video transmission.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Rizk whose telephone number is (571) 272-8191. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (571) 272-3819.

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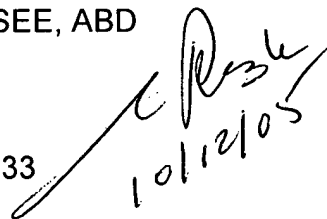
The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronics Business Center (EBC) at 866-217-9197 (toll-free)

Sam Rizk, MSEE, ABD

Examiner

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10/12/05



JOSEPH TORRES
PRIMARY EXAMINER